

I claim:

1. A bearing assembly comprising an inner ring for mounting on a shaft, an outer ring disposed concentrically about said inner ring, a plurality of roller elements interposed between said inner and outer rings, said inner ring including finger extensions extending axially from a side thereof, a compressible annular locking collar positionable circumferentially about said finger extensions, said finger extensions having an outwardly opening groove disposed inwardly from distal ends thereof, said locking collar having a protrusion which defines a locking portion engageable with one side of said finger extension groove, said protrusion being sized with respect to said finger extensions such that upon positioning of said locking collar on said finger extensions said protrusion is forced over said finger extensions and received in said recess with a snap action engagement for retaining said locking collar in preliminary mounted position on said finger extensions, and said locking collar having a fastening screw operable for causing said locking collar to compress the finger extensions into locking engagement with said shaft following mounting in preliminary position on said finger extensions.
2. The bearing assembly of claim 1 in which said locking portion is a ledge, and said protrusion has a camming surface adapted for guiding said locking collar into preliminary mounted position on said finger extensions.
3. The bearing assembly of claim 2 in which said protrusion camming surface has a leading annular edge that is larger in diameter than an outer diameter of said finger extensions.
4. The bearing assembly of claim 3 in which said protrusion has an axial length corresponding substantially to an axial length of said groove.

10025076-121801

5. The bearing assembly of claim 1 in which said groove defines raised lips adjacent distal ends of said finger extensions, said lips having an outer cylindrical surface of a diameter greater than the diameter of said groove, and said collar having an inner cylindrical mounting surface for positioning on said cylindrical lip surface.

6. The bearing assembly of claim 1 in which said finger extensions extend from a shoulder of said inner ring, and said collar is positively secured against said shoulder when the locking portion of said protrusion engages said one side of said finger extension groove.

7. The bearing assembly of claim 6 in which said locking collar is a unitary annular structure having an integrally formed protrusion.

8. The bearing assembly of claim 7 in which said protrusion has a generally V-shaped configuration.

9. The bearing assembly of claim 8 in which said groove has a cylindrical bottom surface, said finger extension lips define an outer cylindrical surface on one side of said protrusion which is greater in diameter than the diameter of said bottom groove surface, and said collar has a first inner cylindrical surface for positioning in close relation to said cylindrical surface and a second internal cylindrical surface on an opposite side of said protrusion positionable in close relation to said bottom surface of said groove.

10. The bearing assembly of claim 1 in which said protrusion is defined by an annular resilient member carried within an inner annular surface of said collar.

11. A bearing assembly comprising an inner ring for mounting on a shaft, an outer ring disposed concentrically about said inner ring, a plurality of roller elements interposed between said inner and outer rings, said inner ring including a finger extensions extending axially from a side thereof, a compressible annular locking collar positionable circumferentially

1005076-121801

about said finger extensions, said finger extensions having an outwardly opening weakening groove which defines lips adjacent a distal end of the finger extensions, said lips defining an outer cylindrical surface greater than the diameter of said groove, said locking collar being formed with an internal cylindrical surface for positioning an said cylindrical surface defined by said finger extension lips, and said internal locking collar cylindrical surface and said lip being formed with complimentary detents adapted for snap action engagement upon positioning of said locking collar on said finger extensions.

12. The bearing assembly of claim 11 in which said detents include an arcuate protrusion extending from one said cylindrical surfaces and an arcuate recess formed in the other of said cylindrical surfaces.

13. The bearing assembly of claim 11 in which said detents include a recess formed in the cylindrical surface defined by finger extension lips and an inwardly directed protrusion extending from the internal cylindrical surface of said collar.

14. The bearing assembly of claim 11 in which said detents includes arcuate protrusions extending radially inwardly from said finger extensions and arcuate recesses formed circumferentially about the outer periphery of said finger extensions.

15. A bearing assembly comprising an inner ring for mounting on a shaft, an outer ring disposed concentrically about said inner ring, a plurality of roller elements interposed between said inner and outer rings, said inner ring including finger extensions extending axially from a side thereof, said finger extensions having an outwardly opening groove disposed inwardly from the distal ends thereof, a compressible annular locking collar positionable circumferentially about said finger extensions, said locking collar having a protrusion extending radially inwardly therefrom, said

10025076-121801

protrusion having an internal diameter less than the outer diameter of said finger extensions, at least one of said locking collar and finger extensions being sufficiently resilient to permit said protrusion to be forced over the distal ends of said finger extensions and to snap into engaging relation with said finger extension groove upon positioning of said locking collar onto said finger extensions so as to positively retain said locking collar in mounted position on said finger extensions, and said collar having a fastening screw operable for causing said locking collar to compress the finger extensions into locking engagement with a shaft upon which said bearing assembly is mounted.

16. The bearing assembly of claim 15 in which said locking collar is a unitary annular structure in which said protrusion is integrally formed.

17. The bearing assembly of claim 15 in which said finger extensions extend from a shoulder of said inner ring, and said collar is positively secured against said shoulder when said protrusion engages said finger extension groove.

18. The bearing assembly of claim 15 in which said collar defines an annular internal opening having a leading edge which is greater in diameter than the outer diameter of said finger extensions so as to permit said collar to be positioned partially over said finger extensions prior to snap acting inter-engagement of said protrusion and groove.

19. The bearing assembly of claim 15 in which said protrusion has a wedge shape.

20. The bearing assembly of claim 15 in which said protrusion has an arcuate shape.

21. The bearing assembly of claim 15 in which said protrusion has a generally V-shape.

22. The bearing assembly of claim 15 in which said protrusion comprises a multiplicity of individual

10025076-121801

protruding elements disposed about an inner annular surface of said locking collar.

23. The bearing assembly of claim 15 in which said groove has an axial length of approximately one-half the axial length of said finger extensions.

24. The bearing assembly of claim 15 in which said locking collar includes an annular resilient member which defines said protrusion.

25. A bearing assembly comprising an inner ring for mounting on a shaft, an outer ring disposed concentrically about said inner ring, a plurality of roller elements interposed between said inner and outer rings, said inner ring including finger extensions extending axially from a side thereof, a compressible annular locking collar positionable circumferentially about said finger extensions, said finger extensions having an outwardly opening groove disposed inwardly from distal ends thereof, said locking collar having an inner annular mounting surface and a separate annular resilient member carried by said annular mounting surface and extending inwardly therefrom, said resilient member defining a deformable protrusion which is compressed radially outwardly upon positioning of said locking collar over said finger extensions until reaching said finger extension groove whereupon said resilient member snaps into said groove for retaining said locking collar in preassembled position on said finger extensions, and said locking collar having a fastening screw operable for causing said locking collar to compress said finger extensions into locking engagement with a shaft following pre-assembled positioning thereon.

26. The bearing assembly of claim 25 in which said groove defines raised lips adjacent distal ends of said finger extensions, said raised lips having an outer diameter greater than the diameter of said annular resilient member.

10025076.121801

27. The bearing assembly of claim 25 in which said resilient member is an O-ring.

28. The bearing assembly of claim 27 in which the annular mounting surface of said locking collar is formed
5 with a groove within which said O-ring is carried.

29. The bearing assembly of claim 28 in which said locking collar groove is rectangular in shape.

30. The bearing assembly of claim 29 in which said inner ring is formed with a shoulder against which a side
10 of said locking collar abuts when in preassembled position.

31. The bearing assembly of claim 30 in which the distance between the axial side of said locking collar that abuts said shoulder and said locking collar groove
15 corresponds substantially to an axial length of said finger extension groove.

32. A bearing assembly comprising an inner ring for mounting on a shaft, an outer ring disposed concentrically about said inner ring, a plurality of
20 roller elements interposed between said inner and outer rings, said inner ring including finger extensions extending axially from a side thereof, a collar comprising a lone piece annular compressible member positionable circumferentially about said finger
25 extensions, said finger extensions having an outer periphery formed with threads, said one piece annular member having an inner annular mounting surface formed with threads that are engageable with said finger extension threads for permitting said annular member to
30 be rotatably threaded on to said finger extensions to a preassembled position, and said annular member having a fastening screw operable for causing said annular member to compress said finger extensions into locking engagement with a shaft following pre-assembled
35 positioning thereon.

33. The bearing assembly of claim 22 in which said inner ring is formed with a locating shoulder, and said

10025076-121801

annular member is rotatably threaded onto said finger extensions into abutting engagement with said locating shoulder.

10025026-121801